

=> d his

(FILE 'HOME' ENTERED AT 15:32:54 ON 20 AUG 2003)

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 15:35:43 ON
20 AUG 2003

SEA PROTEASE

33567 FILE ADISCTI
1026 FILE ADISINSIGHT
759 FILE ADISNEWS
6076 FILE AGRICOLA
510 FILE ANABSTR
2113 FILE AQUASCI
3371 FILE BIOCOP
1005 FILE BIOCOMMERCE
77214 FILE BIOSIS
15393 FILE BIOTECHABS
15393 FILE BIOTECHDS
25940 FILE BIOTECHNO
10685 FILE CABA
13339 FILE CANCERLIT
90056 FILE CAPLUS
2385 FILE CEABA-VTB
220 FILE CEN
975 FILE CIN
2054 FILE CONFSCI
85 FILE CROPB
468 FILE CROPU
717 FILE DDFB
8835 FILE DDFU
51761 FILE DGENE
717 FILE DRUGB
150 FILE DRUGLAUNCH
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49298 FILE EMBASE
30246 FILE ESBIOBASE
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457 FILE PHARMAML
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1328 FILE PHIN
5834 FILE PROMT
45 FILE RDISCLOSURE
63797 FILE SCISEARCH
102 FILE SYNTHLINE
33986 FILE TOXCENTER
41446 FILE USPATFULL
1251 FILE USPAT2
21 FILE VETB
343 FILE VETU
12781 FILE WPIDS
12781 FILE WPINDEX
L1 QUE PROTEASE

FILE 'CAPPLUS, BIOSIS, MEDLINE, SCISEARCH, EMBASE, USPATFULL, TOXCENTER, ADISCTI, ESBIOBASE, PASCAL, BIOTECHNO, LIFESCI' ENTERED AT 15:38:47 ON 20 AUG 2003

L2 28248 S L1 AND BACILLUS
L3 14 S L2 AND (KSM-KP43 OR KSM-KP1790 OR KSM-KP9860)
L4 6 DUP REM L3 (8 DUPLICATES REMOVED)
L5 1 S L2 AND (PH 4-13 OR ISOELECTRIC 8.9-9.1)
L6 841 S L2 AND (OLEIC ACID)
L7 233 S L6 AND CASEIN
L8 229 S L7 AND (PURIF? OR ISOLAT? OR CHARACT?)
L9 229 DUP REM L8 (0 DUPLICATES REMOVED)

=> d 14 ibib ab 1-6

L4 ANSWER 1 OF 6 USPATFULL on STN
ACCESSION NUMBER: 2003:30404 USPATFULL
TITLE: Alkaline **proteases**
INVENTOR(S):
 Hatada, Yuji, Mihara-shi, JAPAN
 Ogawa, Akinori, Haga-gun, JAPAN
 Kageyama, Yasushi, Haga-gun, JAPAN
 Sato, Tsuyoshi, Haga-gun, JAPAN
 Araki, Hiroyuki, Haga-gun, JAPAN
 Sumitomo, Nobuyuki, Haga-gun, JAPAN
 Okuda, Mitsuyoshi, Haga-gun, JAPAN
 Saeki, Katsuhisa, Haga-gun, JAPAN
PATENT ASSIGNEE(S):
 Kao Corporation, Tokyo, JAPAN, 103-8210 (non-U.S.
corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003022351	A1	20030130
APPLICATION INFO.:	US 2001-985689	A1	20011105 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2000-355166	20001122
	JP 2001-114048	20010412
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC, FOURTH FLOOR, 1755 JEFFERSON DAVIS HIGHWAY, ARLINGTON, VA, 22202	
NUMBER OF CLAIMS:	10	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	3 Drawing Page(s)	
LINE COUNT:	725	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

AB The present invention relates to alkaline **proteases** having high specific activity oxidant resistance, as well as an enzyme having excellent detergency that is to be added to a detergent.

L4 ANSWER 2 OF 6 USPATFULL on STN
ACCESSION NUMBER: 2002:126342 USPATFULL
TITLE: Alkaline **protease**
INVENTOR(S):
 Takaiwa, Mikio, Tochigi, JAPAN
 Okuda, Mitsuyoshi, Tochigi, JAPAN
 Saeki, Katsuhisa, Tochigi, JAPAN
 Kubota, Hiromi, Tochigi, JAPAN
 Hitomi, Jun, Tochigi, JAPAN
 Kageyama, Yasushi, Tochigi, JAPAN
 Shikata, Shitsuw, Wakayama, JAPAN
 Nomura, Masafumi, Wakayama, JAPAN
PATENT ASSIGNEE(S):
 KAO CORPORATION, Tokyo, JAPAN, 103-8210 (non-U.S.
corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002064854	A1	20020530
APPLICATION INFO.:	US 2001-920954	A1	20010803 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 2000-509814, filed on 6 Apr 2000, PENDING A 371 of International Ser. No. WO 1997-JP9804528, filed on 7 Oct 1997, UNKNOWN		

	NUMBER	DATE

PRIORITY INFORMATION: JP 1997-274570 19971007
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC, FOURTH FLOOR, 1755 JEFFERSON DAVIS HIGHWAY, ARLINGTON, VA, 22202
NUMBER OF CLAIMS: 6
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 6 Drawing Page(s)
LINE COUNT: 2016

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An alkaline **protease** having the following properties; a gene encoding the same; a microorganism producing the same; and washing compositions containing the same; (i) acting over a broad pH value range of 4 to 13 and achieving, at pH 6 to 12, 80% or more the activity at the optimum pH value; (ii) when treated at 40.degree. C. for 30 minutes, being stable over a pH value range of 6 to 11; (iii) having an isoelectric point of about 8.9 to 9.1; and (iv) having casein digesting activity that is not inhibited by oleic acid. The alkaline **protease** of the present invention is highly stable to various surface active agents and fatty acids, and exhibits high stability to oxidizing agents, and is therefore useful as an enzyme to be used in detergents for automatic dishwashers and laundry detergents, both containing bleaching components.

L4 ANSWER 3 OF 6 USPATFULL on STN
ACCESSION NUMBER: 2002:88248 USPATFULL
TITLE: Alkaline **protease**
INVENTOR(S):
Takaiwa, Mikio, Tochigi, JAPAN
Okuda, Mitsuyoshi, Tochigi, JAPAN
Saeki, Katsuhisa, Ichikai-machi, JAPAN
Kubota, Hiromi, Ichikai-machi, JAPAN
Hitomi, Jun, Ichikai-machi, JAPAN
Kageyama, Yasushi, Ichikai-machi, JAPAN
Shikata, Shitsuw, Wakayama, JAPAN
Nomura, Masafumi, Wakayama, JAPAN
PATENT ASSIGNEE(S): Kao Corporation, Tokyo, JAPAN (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6376227	B1	20020423
	WO 9918218		19990415
APPLICATION INFO.:	US 2000-509814		20000406 (9)
	WO 1998-JP4528		19981007
			20000406 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1997-274570	19971007
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Prouty, Rebecca E.	
ASSISTANT EXAMINER:	Rao, Manjunath	
LEGAL REPRESENTATIVE:	Oblon, Spivak, McClelland, Maier & Neustadt, P.C.	
NUMBER OF CLAIMS:	25	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	9 Drawing Figure(s); 6 Drawing Page(s)	
LINE COUNT:	1874	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An alkaline **protease** having the following properties; a gene encoding the same; a microorganism producing the same; and washing compositions containing the same; (i) acting over a broad pH value range of 4 to 13 and achieving, at pH 6 to 12, 80% or more the activity at the optimum pH value; (ii) when treated at 40.degree. C. for 30 minutes,

being stable over a pH value range of 6 to 11; (iii) having an isoelectric point of about 8.9 to 9.1; and (iv) having casein digesting activity that is not inhibited by oleic acid. The alkaline **protease** of the present invention is highly stable to various surface active agents and fatty acids, and exhibits high stability to oxidizing agents, and is therefore useful as an enzyme to be used in detergents for automatic dishwashers and laundry detergents, both containing bleaching components.

L4 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
ACCESSION NUMBER: 2002:206496 CAPLUS
DOCUMENT NUMBER: 137:17661
TITLE: A novel species of alkaliphilic **Bacillus** that produces an oxidatively stable alkaline serine **protease**
AUTHOR(S): Saeki, Katsuhisa; Hitomi, Jun; Okuda, Mitsuyoshi;
Hatada, Yuji; Kageyama, Yasushi; Takaiwa, Mikio;
Kubota, Hiromi; Hagiwara, Hiroshi; Kobayashi, Tohru;
Kawai, Shuji; Ito, Susumu
CORPORATE SOURCE: Tochigi Research Laboratories of Kao Corporation,
Tochigi, Japan
SOURCE: Extremophiles (2002), 6(1), 65-72
CODEN: EXTRFI; ISSN: 1431-0651
PUBLISHER: Springer-Verlag Tokyo
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A novel gram-pos., strictly aerobic, motile, sporulating, and facultatively alkalophilic bacterium designated **KSM-KP43** was isolated from a sample of soil. The results of 16S rRNA sequence anal. placed this bacterium in a cluster with **Bacillus halmapalus**. However, the level of the DNA-DNA hybridization of **KSM-KP43** with *B. halmapalus* was less than 25%. Moreover, the G + C contents of the genomic DNA were 41.6 mol% for **KSM-KP43** and 38.6 mol% for *B. halmapalus*. Because there were also differences in physiol. properties and cellular fatty acid compn. between the two organisms, we propose **KSM-KP43** as a novel species of alkalophilic **Bacillus**. This novel strain produces a new class of **protease**, an oxidatively stable serine **protease** that is suitable for use in bleach-based detergents. The enzyme contained 640 amino acid residues, including a possible .apprx.200-amino-acid prepropeptide in the N-terminal and a unique stretch of .apprx.160 amino acids in the C-terminal regions (434-amino-acid mature enzyme with a calcd. mol. mass of 45,301 Da). The C-terminal half after the putative catalytic Ser255 and the contiguous C-terminal extension shared local similarity to internal segments of a membrane-assoccd. serine **protease** of a marine microbial assemblage and the serine **protease**/ABC transporter precursors of the slime mold *Dictyostelium discoideum*, and to the C-terminal half of a cold-active alk. serine **protease** of a psychrotrophic *Shewanella* strain.
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2001:294345 CAPLUS
DOCUMENT NUMBER: 135:73253
TITLE: Crystallization and preliminary x-ray diffraction studies of a novel alkaline serine **protease** (KP-43) from alkaliphilic **Bacillus** sp. strain **KSM-KP43**
AUTHOR(S): Nonaka, Tsuyoshi; Fujihashi, Masahiro; Kita, Akiko;
Saeki, Katsuhisa; Ito, Susumu; Miki, Kunio
CORPORATE SOURCE: Graduate School of Science, Department of Chemistry,
Kyoto University, Sakyo-ku, Kyoto, 606-8502, Japan
SCURCE: Acta Crystallographica, Section D: Biological

Crystallography (2001), D57(5), 717-718

CODEN: ABCRE6; ISSN: 0907-4449

PUBLISHER: Munksgaard International Publishers Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel alk. serine **protease** (KP-43) which belongs to a new class of the subtilisin superfamily was crystd. by the sitting-drop vapor-diffusion method with (NH₄)₂SO₄ as precipitant. The crystals belonged to orthorhombic space group C2221, with unit-cell parameters a = 43.50, b = 110.4, and c = 168.9 .ANG.. The crystals diffracted x-rays beyond 1.9 .ANG. resoln. using Cu K. α . radiation from a rotating-anode generator and were suitable for high-resoln. crystal structure anal.

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1999:244766 CAPLUS

DOCUMENT NUMBER: 130:293280

TITLE: Cloning of gene for alkaline **protease** from **Bacillus** and detergent composition containing the alkaline **protease**

INVENTOR(S): Takaiwa, Mikio; Okuda, Mitsuyoshi; Saeki, Katsuhisa; Kubota, Hiromi; Hitomi, Jun; Kageyama, Yasushi; Shikata, Shitsuw; Nomura, Masafumi

PATENT ASSIGNEE(S): Kao Corporation, Japan

SOURCE: PCT Int. Appl., 71 pp.

CODEN: PIIXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9918218	A1	19990415	WO 1998-JP4528	19981007
W: AU, CN, ID, JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9894579	A1	19990427	AU 1998-94579	19981007
AU 732369	B2	20010426		
EP 1029920	A1	20000823	EP 1998-947770	19981007
R: DE, DK, FR, GB, NL				
US 6376227	B1	20020423	US 2000-509814	20000406
US 2002064854	A1	20020530	US 2001-920954	20010803
PRIORITY APPLN. INFO.:			JP 1997-274570	A 19971007
			WO 1998-JP4528	W 19981007
			US 2000-509814	A1 20000406

AB Novel **Bacillus** strains **KSM-KP9860**,

KSM-KP43, and **KSM-KP1790** are

isolated from soil and used for the prodn. of alk. **protease**.

The enzyme is active in broad pH ranges and remains >80% active (100 at pH optimum) in a pH ranges of pH 6-12,. It exhibits pI 8.9-9.1 and mol. wt. 43,000 by SDS-PAGE. Its casein-degrading activity is not inhibited by oleic acid. The enzyme is also stable in the presence of various surfactants, fatty acids, oxidizing agents and thus is useful for the prepn. of dish wash or laundry detergent. The genes encoding the alk. **protease** have been isolated from the 3 strains, resp.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d 16 ibib ab 835-841

L6 ANSWER 835 OF 841 USPATFULL on STN
ACCESSION NUMBER: 74:57903 USPATFULL
TITLE: GRANULAR NON-DUSTING ENZYME PRODUCT FOR DETERGENT USE
INVENTOR(S): Mostow, John Hinckley, Metuchen, NJ, United States
PATENT ASSIGNEE(S): Stima, Joseph Frank, Edison, NJ, United States
Colgate-Palmolive Company, New York, NY, United States
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 3853780		19741210
APPLICATION INFO.:	US 1972-216311		19720107 (5)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1969-864176, filed on 6 Oct 1969, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Kendall, Ralph S.		
ASSISTANT EXAMINER:	Albrecht, Dennis L.		
LEGAL REPRESENTATIVE:	Stone, Robert L., Grill, Murray M., Sylvester, Herbert S.		
NUMBER OF CLAIMS:	3		
EXEMPLARY CLAIM:	1		
LINE COUNT:	480		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.			
AB	Granular non-dusting product of high enzyme content for use in detergent composition. A powdered enzyme preparation is blended with soap and a sugar.		

L6 ANSWER 836 OF 841 USPATFULL on STN
ACCESSION NUMBER: 74:49221 USPATFULL
TITLE: PREPARATION OF FETA CHEESE
INVENTOR(S): Efthymiou, Constantine John, 84-63 126TH St., Kew Gardens, L.I., NY, United States 11415

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 3843801		19741022
APPLICATION INFO.:	US 1973-324760		19730118 (5)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1971-142415, filed on 11 May 1971, now abandoned which is a continuation-in-part of Ser. No. US 1968-776219, filed on 25 Oct 1968, now abandoned which is a continuation-in-part of Ser. No. US 1964-380637, filed on 6 Jul 1964, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Naff, David M.		
LEGAL REPRESENTATIVE:	Pailas, Themis C.		
NUMBER OF CLAIMS:	3		
EXEMPLARY CLAIM:	1		
LINE COUNT:	897		
AB	Feta cheese is prepared by a process involving adding during the step of acidifying the milk a combination of ripening agents comprising a rated amount of proteolytic lacto- bacilli to effect a controlled advanced degree of proteolysis associated with a creamy, soluble body and Streptococcus faecium stains of enterococci viable and active through the range of ripening parameters.		

L6 ANSWER 837 OF 841 USPATFULL on STN
ACCESSION NUMBER: 73:54295 USPATFULL
TITLE: PRODUCTION OF GRANULAR MIXTURES
INVENTOR(S): Hussain, Ali Ghalib Mohammed, Elizabeth, NJ, United

PATENT ASSIGNEE(S) : States
Colgate-Palmolive Company, New York, NY, United States
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 3773671		19731120
APPLICATION INFO.:	US 1971-178800		19710908 (5)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1969-828938, filed on 29 May 1969, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Schulz, William E.		
LEGAL REPRESENTATIVE:	Herbert S. Sylvester et al.		
NUMBER OF CLAIMS:	3		
NUMBER OF DRAWINGS:	4 Drawing Figure(s); 2 Drawing Page(s)		
LINE COUNT:	504		
AB	Process for producing granular enzyme product which comprise mixing an aqueous slurry of powdered enzyme preparation with hydrated pentasodium tripolyphosphate while agitating.		

L6 ANSWER 838 OF 841 USPATFULL on STN
ACCESSION NUMBER: 73:5197 USPATFULL
TITLE: STAIN REMOVAL
INVENTOR(S): Gray, Frederick William, Summit, NJ, United States
PATENT ASSIGNEE(S) : Colgate-Palmolive Company, New York, NY, United States
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 3714050		19730130
APPLICATION INFO.:	US 1969-829104		19690529 (4)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1968-711203, filed on 7 Mar 1968, now abandoned And Ser. No. US 1968-726571, filed on 3 May 1968, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Weinblatt, Mayer		
LEGAL REPRESENTATIVE:	Sylvester; Herbert S., Grill; Murray M., Blumenkopf; Norman, Cornell; Ronald S., Corum; Thomas J., Miller; Richard N., Stone; Robert L.		
NUMBER OF CLAIMS:	18		
LINE COUNT:	814		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.			
AB	A stain-removing dry composition containing sodium perborate, a proteolytic enzyme and MgSO ₄ . The presence of the MgSO ₄ gives superior stability on aging.		

L6 ANSWER 839 OF 841 USPATFULL on STN
ACCESSION NUMBER: 72:4670 USPATFULL
TITLE: STAIN REMOVAL
INVENTOR(S) : Gray, Frederick William, 14 Stockton Road, Summit, NJ, United States 07901

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 3637339		19720125
APPLICATION INFO.:	US 1968-726571		19680503 (4)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1968-711203, filed on 7 Mar 1968		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Weinblatt, Mayer		
LEGAL REPRESENTATIVE:	Sylvester; Herbert S., Grill; Murray M., Blumenkopf;		

Norman, Cornell; Ronald S., Corum; Thomas J., Miller;
Richard N., Stone; Robert L.

NUMBER OF CLAIMS:

21

LINE COUNT:

667

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Composition for removing stains from fabrics, including, an enzyme, a per-compound, and an activator for the perborate.

L6 ANSWER 840 OF 841 TOXCENTER COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:663476 TOXCENTER

COPYRIGHT: Copyright 2003 ACS

DOCUMENT NUMBER: CA13801007901W

TITLE: Compn. including **Bacillus** megaterium for removal of fats, oils and grease and application from grease traps

AUTHOR(S): Tisinger, Jessi Lind; Paone, Domenic A.; Leder, Jonathan; Drahos, David J.

PATENT INFORMATION: WO 2002094181 A2 28 Nov 2002

SOURCE: (2002) PCT Int. Appl., 34 pp.

CODEN: PIXXD2.

COUNTRY: UNITED STATES

DOCUMENT TYPE: Patent

FILE SEGMENT: CAPLUS

OTHER SOURCE: CAPLUS 2002:905724

LANGUAGE: English

ENTRY DATE: Entered STN: 20021224

Last Updated on STN: 20021231

AB The invention discloses a Gram-pos. microorganism, **Bacillus** megaterium that effectively and efficiently degrades fats, oils and grease. A compn. comprising said microorganism and a method for degrading fatty acids and grease are also disclosed. Availability of glycerol to the biodegrading microorganism was discovered to enhance biodegrdn. **Bacillus** megaterium strain SB3112, having the characteristics of ATCC deposit no. PTA-3142. Enzymes are selected from the group consisting of **protease**, .amylase, lipase and cellulase.

L6 ANSWER 841 OF 841 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 1993-0283591 PASCAL

TITLE (IN ENGLISH): New detergent mechanism using cellulase revealed by change in physicochemical properties of cellulose

AUTHOP: MURATA M.; HOSHINO E.; YOKOSUKA M.; SUZUKI A.

CORPORATE SOURCE: Kao Corp., Household Products Research Laboratories, Wakayama 640, Japan

SOURCE: JAOCs - Journal of the American Oil Chemists' Society, (1993), 70(1), 53-58, 17 refs.

DOCUMENT TYPE: Journal

BIBLIOGRAPHIC LEVEL: Analytic

COUNTRY: United States

LANGUAGE: English

AVAILABILITY: INIST-204, 354000038438860080

AB Sebum in naturally soiled cotton undershirt and **oleic acid** in artificially soiled cotton cloth, which entered interfiber space in the interior of cotton fibers were easily removed by alkaline cellulase from **Bacillus** sp., but only with difficulty by commonly used detergent ingredients such as surfactant and **protease**. Adsorption isotherms and the rate of hydrolysis of alkaline cellulase against insoluble cellulose powders revealed that the lower the relative crystallinity of cellulose powder, the more adsorptive alkaline cellulase became and the more hydrolysis was promoted.